

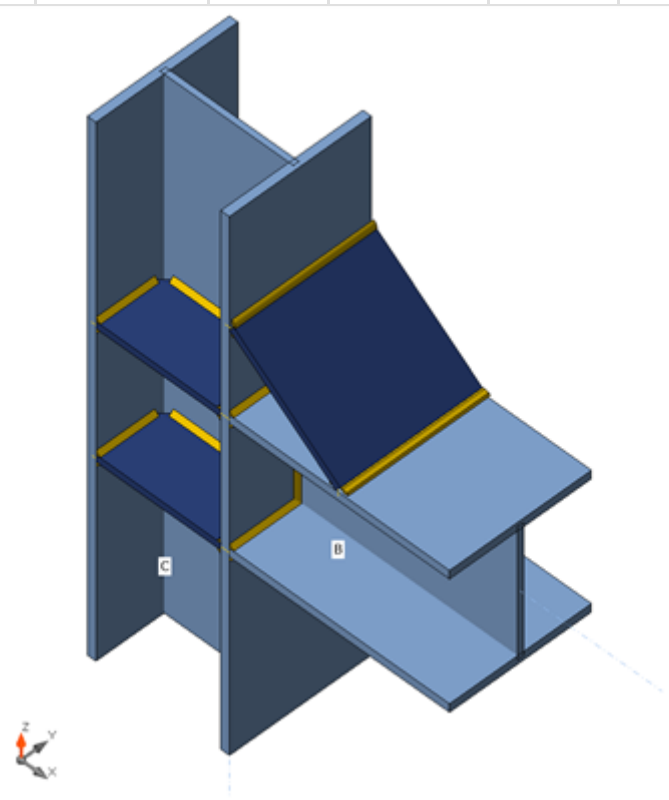
Project item CON1

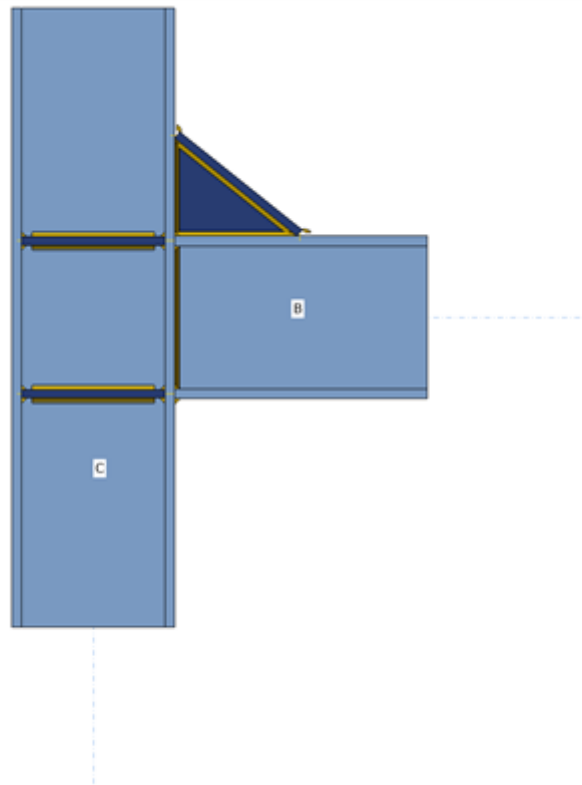
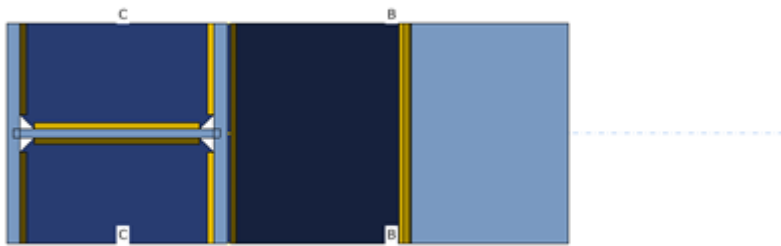
Design

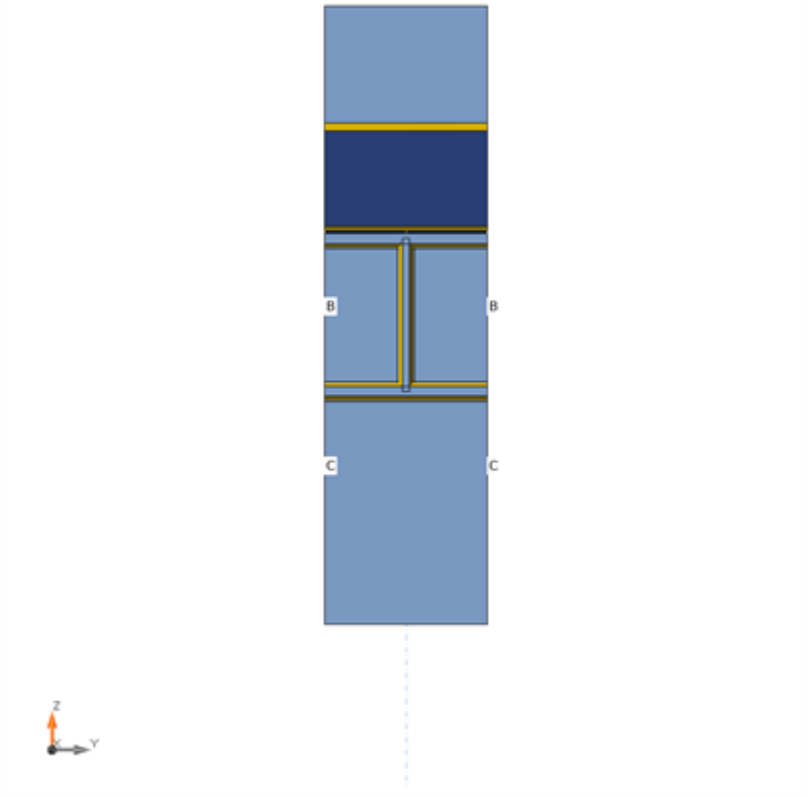
Name	CON1
Description	
Analysis	Stress, strain/ simplified loading
Design code	AISC - ASD

Beams and columns

Name	Cross-section	β – Direction [°]	γ - Pitch [°]	α - Rotation [°]	Offset ex [mm]	Offset ey [mm]	Offset ez [mm]	Forces in
C	1 - H 200x200x8	0.0	-90.0	0.0	0	0	0	Node
B	1 - H 200x200x8	0.0	0.0	0.0	0	0	0	Node







Cross-sections

Name	Material
1 - H 200x200x8	A36

Cross-sections

Name	Material	Drawing
1 - H 200x200x8	A36	A cross-section drawing of an H 200x200x8 beam. The drawing shows the flanges and web with dimensions: total height 200, web height 176, flange thickness 12, and web thickness 8. A coordinate system (y, z) is shown.

Load effects (equilibrium not required)

Name	Member	N [kN]	Vy [kN]	Vz [kN]	Mx [kNm]	My [kNm]	Mz [kNm]
LE1	B	19.6	0.0	36.2	0.0	15.1	0.0
LE2	B	44.9	0.5	38.5	0.0	-70.0	0.2
LE3	B	90.4	60.8	29.1	0.0	12.3	20.5
LE4	B	-19.6	0.0	36.2	0.0	15.1	0.0
LE5	B	-44.9	0.5	38.5	0.0	-70.0	0.2
LE6	B	-90.4	60.8	29.1	0.0	12.3	20.5

Check

Summary

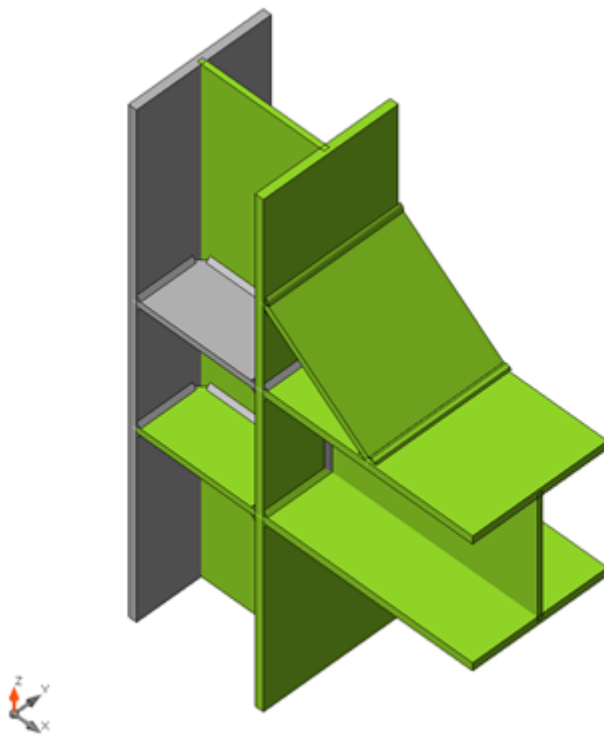
Name	Value	Check status
Analysis	100.0%	OK
Plates	0.2 < 5.0%	OK
Welds	79.4 < 100%	OK
Buckling	Not calculated	

Plates

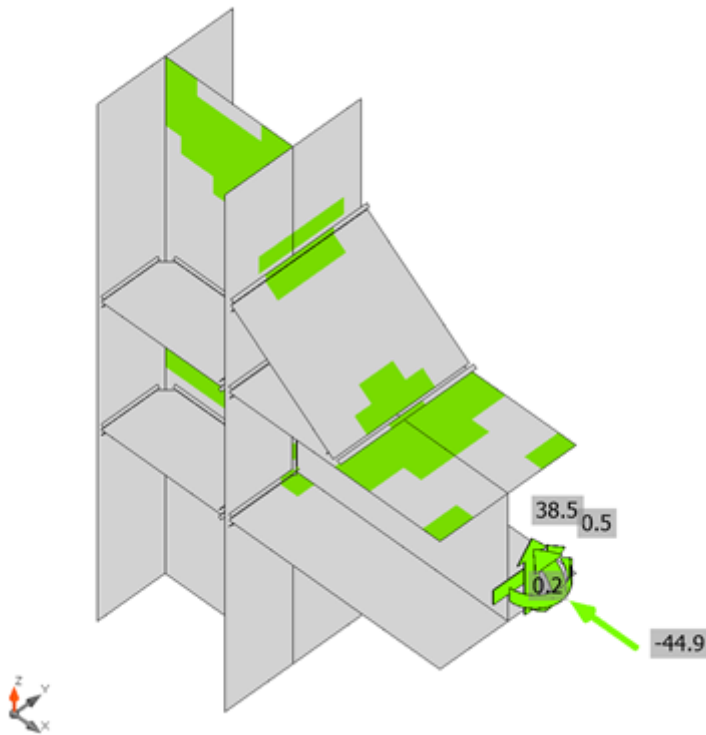
Name	F _y [MPa]	Thickness [mm]	Loads	σ _{Ed} [MPa]	ε _{pl} [%]	σ _C _{Ed} [MPa]	Check status
C-bfl 1	248.2	12.0	LE3	148.7	0.1	0.0	OK
C-tfl 1	248.2	12.0	LE2	143.9	0.0	0.0	OK
C-w 1	248.2	8.0	LE5	149.0	0.2	0.0	OK
B-bfl 1	248.2	12.0	LE2	141.1	0.0	0.0	OK
B-tfl 1	248.2	12.0	LE5	148.9	0.1	0.0	OK
B-w 1	248.2	8.0	LE5	148.8	0.1	0.0	OK
STIFF1a	248.2	10.0	LE2	148.7	0.0	0.0	OK
STIFF1b	248.2	10.0	LE2	148.7	0.0	0.0	OK
STIFF1c	248.2	10.0	LE2	111.8	0.0	0.0	OK
STIFF1d	248.2	10.0	LE2	110.6	0.0	0.0	OK
WID1a	248.2	10.0	LE2	130.6	0.0	0.0	OK
WID1b	248.2	10.0	LE5	148.7	0.0	0.0	OK

Design data

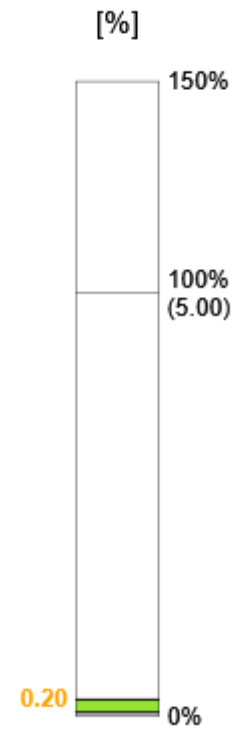
Material	f _y [MPa]	ε _{lim} [%]
A36	248.2	5.0

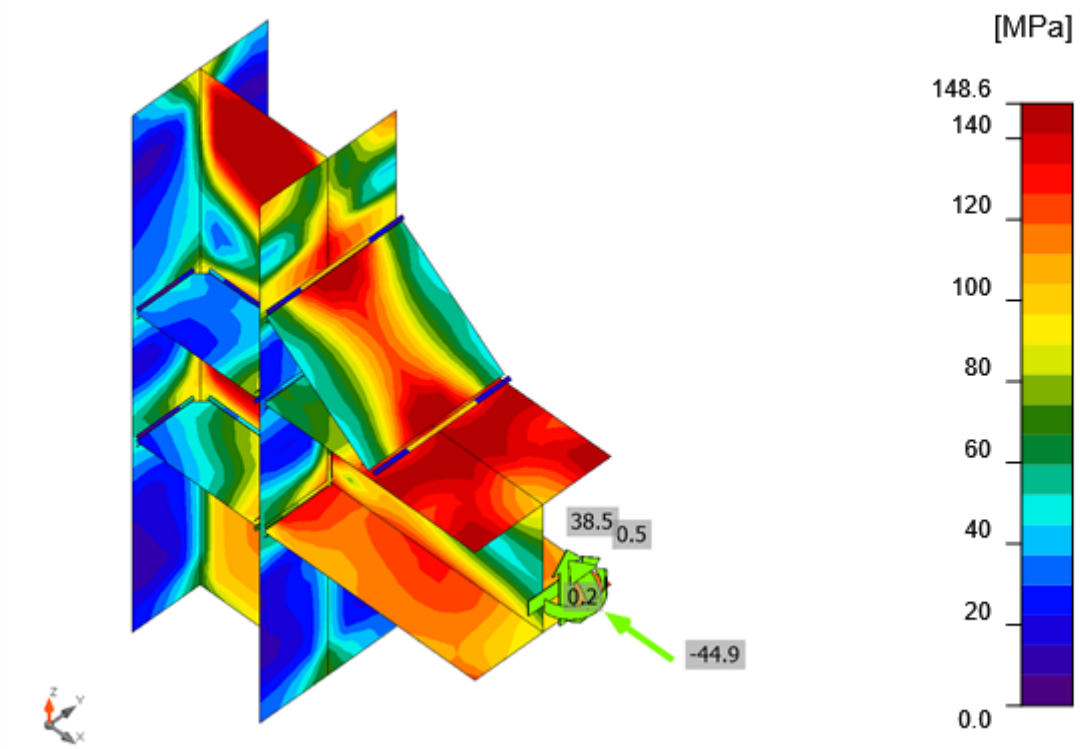


Overall check, LE5



Strain check, LE5





Equivalent stress, LE5

Welds

Item	Edge	Xu	T _h [mm]	L _s [mm]	L [mm]	L _c [mm]	Loads	F _n [kN]	R _n /Ω [kN]	Ut [%]	Status
C-bfl 1	B-bfl 1	E70xx	▲4.2▲	▲6.0▲	199	25	LE5	16.5	21.9	75.5	OK
		E70xx	▲4.2▲	▲6.0▲	199	25	LE2	18.0	22.9	78.7	OK
C-bfl 1	B-tfl 1	E70xx	▲4.2▲	▲6.0▲	200	25	LE3	16.8	22.4	75.0	OK
		E70xx	▲4.2▲	▲6.0▲	200	25	LE3	16.8	22.4	75.1	OK
C-bfl 1	B-w 1	E70xx	▲4.2▲	▲6.0▲	188	23	LE2	16.1	21.2	75.8	OK
		E70xx	▲4.2▲	▲6.0▲	188	23	LE2	16.1	21.2	75.8	OK
C-bfl 1	STIFF1a	E70xx	▲4.2▲	▲6.0▲	83	21	LE2	13.5	18.0	75.1	OK
		E70xx	▲4.2▲	▲6.0▲	83	21	LE5	13.6	18.2	75.1	OK
C-w 1	STIFF1a	E70xx	▲4.2▲	▲6.0▲	150	21	LE6	7.0	13.2	52.7	OK
		E70xx	▲4.2▲	▲6.0▲	150	21	LE6	7.4	13.2	56.4	OK
C-tfl 1	STIFF1a	E70xx	▲4.2▲	▲6.0▲	83	21	LE6	6.4	13.1	48.7	OK
		E70xx	▲4.2▲	▲6.0▲	83	21	LE2	6.9	14.2	48.1	OK
C-bfl 1	STIFF1b	E70xx	▲4.2▲	▲6.0▲	83	21	LE5	13.6	18.2	75.1	OK
		E70xx	▲4.2▲	▲6.0▲	83	21	LE2	13.5	18.0	75.1	OK
C-w 1	STIFF1b	E70xx	▲4.2▲	▲6.0▲	150	21	LE2	8.2	15.1	54.1	OK
		E70xx	▲4.2▲	▲6.0▲	150	21	LE2	7.7	15.2	50.7	OK
C-tfl 1	STIFF1b	E70xx	▲4.2▲	▲6.0▲	83	21	LE2	6.9	14.2	48.6	OK
		E70xx	▲4.2▲	▲6.0▲	83	21	LE2	6.8	15.1	45.3	OK
C-bfl 1	STIFF1c	E70xx	▲4.2▲	▲6.0▲	83	21	LE6	10.6	18.3	58.0	OK
		E70xx	▲4.2▲	▲6.0▲	83	21	LE6	11.7	18.4	63.3	OK
C-w 1	STIFF1c	E70xx	▲4.2▲	▲6.0▲	150	21	LE6	4.4	15.3	28.9	OK
		E70xx	▲4.2▲	▲6.0▲	150	21	LE6	3.6	13.9	25.8	OK
C-tfl 1	STIFF1c	E70xx	▲4.2▲	▲6.0▲	83	21	LE6	3.2	13.6	23.4	OK
		E70xx	▲4.2▲	▲6.0▲	83	21	LE6	3.9	14.0	27.7	OK
C-bfl 1	STIFF1d	E70xx	▲4.2▲	▲6.0▲	83	21	LE3	13.8	18.4	75.1	OK
		E70xx	▲4.2▲	▲6.0▲	83	21	LE3	13.8	18.3	75.1	OK
C-w 1	STIFF1d	E70xx	▲4.2▲	▲6.0▲	150	21	LE3	5.6	13.3	42.2	OK
		E70xx	▲4.2▲	▲6.0▲	150	21	LE3	6.1	13.3	45.7	OK
C-tfl 1	STIFF1d	E70xx	▲4.2▲	▲6.0▲	83	21	LE3	5.2	13.0	40.2	OK
		E70xx	▲4.2▲	▲6.0▲	83	21	LE3	4.8	13.3	36.4	OK
C-bfl 1	WID1a	E70xx	▲4.2▲	▲6.0▲	120	20	LE2	13.1	17.5	75.0	OK
		E70xx	▲4.2▲	▲6.0▲	120	20	LE2	13.1	17.5	75.0	OK
B-tfl 1	WID1a	E70xx	▲4.2▲	▲6.0▲	150	19	LE2	11.0	15.3	71.8	OK
		E70xx	▲4.2▲	▲6.0▲	150	19	LE2	11.0	15.3	71.8	OK
WID1b	WID1a	E70xx	▲4.2▲	▲6.0▲	191	19	LE5	6.0	17.1	35.1	OK
		E70xx	▲4.2▲	▲6.0▲	191	19	LE5	6.0	17.1	35.0	OK
C-bfl 1	WID1b	E70xx	▲4.2▲	▲6.0▲	199	25	LE2	16.8	21.3	78.9	OK
		E70xx	▲4.2▲	▲6.0▲	199	25	LE2	17.2	22.6	76.1	OK
B-tfl 1	WID1b	E70xx	▲4.2▲	▲6.0▲	199	25	LE5	16.8	21.2	79.4	OK

Item	Edge	Xu	T _h [mm]	L _s [mm]	L [mm]	L _c [mm]	Loads	F _n [kN]	R _n /Ω [kN]	Ut [%]	Status
		E70xx	▲4.2▲	▲6.0▲	199	25	LE5	17.0	22.5	75.7	OK

Buckling

Buckling analysis was not calculated.

Bill of material

Manufacturing operations

Name	Plates [mm]	Shape	Nr.	Welds [mm]	Length [mm]	Bolts	Nr.
CUT1				Double fillet: a = 4.2	588.0		
STIFF1	P10.0x96.0-176.0 (A36)		4	Double fillet: a = 4.2	1264.0		
WID1	P10.0x120.0-150.0 (A36)		1	Double fillet: a = 4.2	862.1		
	P10.0x200.0-192.1 (A36)		1				

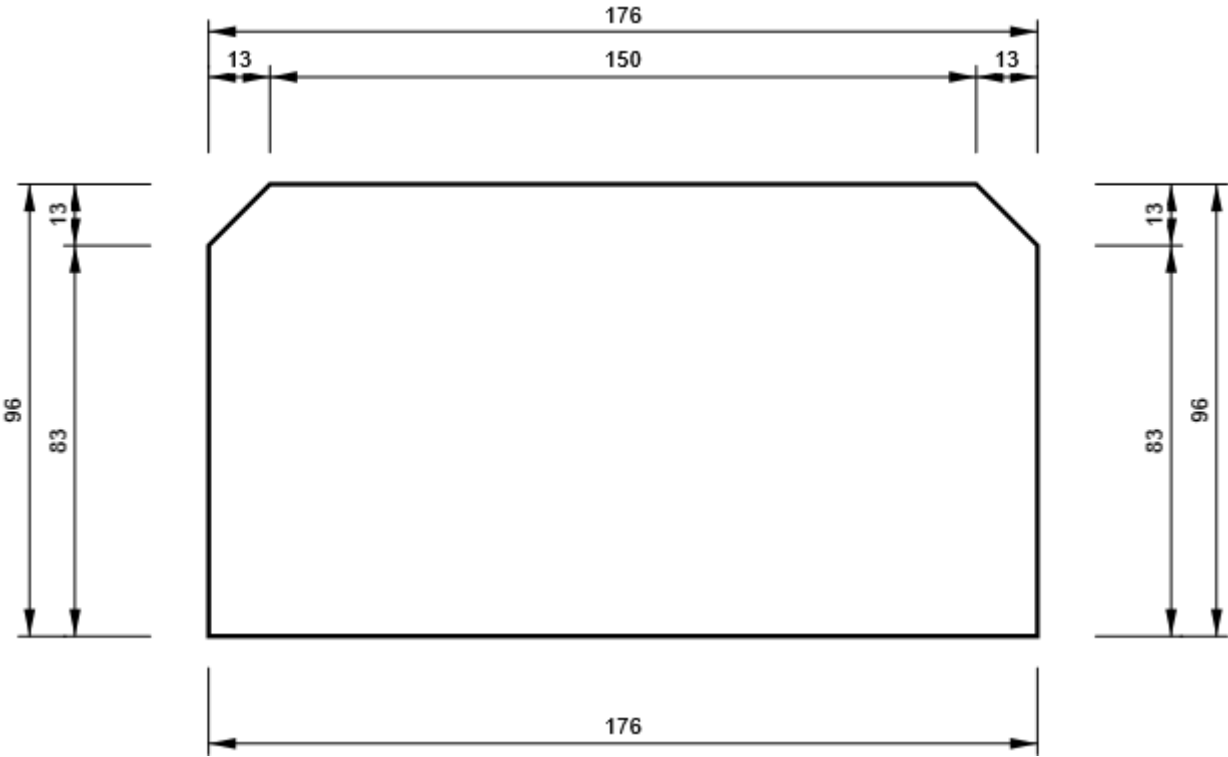
Welds

Type	Material	Throat thickness [mm]	Leg size [mm]	Length [mm]
Double fillet	E70xx	4.2	6.0	2714.1

Drawing

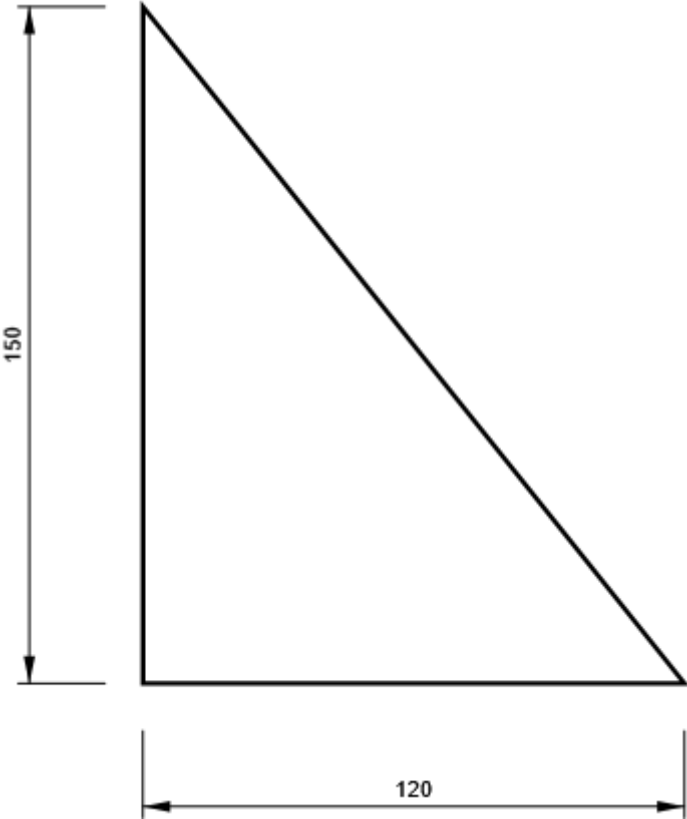
STIFF1

P10.0x176-96 (A36)



WID1 - WID1a

P10.0x150-120 (A36)



WID1 - WID1b

P10.0x192-200 (A36)

